

BT



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,423	12/18/2001	Ronald N. Zuckermann	16141.003	6469

7590 08/10/2005
Attn: David P. Lentini
Chiron Corporation
P. O. Box 8097
Emeryville, CA 94608

EXAMINER

WESSENDORF, TERESA D

ART UNIT	PAPER NUMBER
----------	--------------

1639

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,423

Applicant(s)

ZUCKERMANN ET AL.

Examiner

T. D. Wessendorf

Art Unit

1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-17, 21 and 24-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-17, 21 and 24-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

TD

Art Unit: 1639

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 13-17, 21 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy(PNAS) in view of Liotta (USP 6153596) for reasons set forth in the last Office action, 2/8/2005.

Response to Arguments

Applicants acknowledge that Murphy described the identification of cationic peptides which are effective in the delivery of plasmid DNA. Applicants likewise acknowledged that Liotta et al describes the use of polycationic polymers which include peptoids for transfection of nucleic acids including oligonucleotide. But argue that Liotta et al teaches that sequence per se is not an important factor in electrostatic binding between nucleic acids and cationic peptides or peptoids. Rather, Liotta teaches that, in cationic oligomers, such as peptoids, length of oligomer and spacing of cationic side groups are critical factors in determining their effectiveness in oligonucleotide transfection. The reference emphasizes the use of a "size-selected polycationic oligomer which neutralizes the

Art Unit: 1639

negative charge of the nucleic acid" and also emphasizes the spacing of cationic groups in the oligomer: "Cationic side groups are spaced in the cationic oligomer to substantially match the spacing between negatively charged groups in the nucleic acid backbone".

In response, applicants' arguments as to the different factors of the peptoids are irrelevant as a prima facie finding has been set forth from the teachings of Liotta. Liotta teaches transfection of oligonucleotide by the peptoides (cationic polymers). Simply because Liotta provides the different factors/guidelines as to the kind of peptoides do not detract from the finding of obviousness. Applicants' arguments above and subsequent arguments in reference to Liotta's teaching as to the properties of the oligomer e.g., length, spacing and other peptoides' factors are not commensurate in scope with the claims. None of the claims recite that the factors provided by Liotta for the peptoids affect the transfection of oligonucleotide by the peptoids.

Applicants argue that there is no suggestion in Liotta et al that varying the nature or sequence of these groups from the general pattern (i.e., varying the sequence of the peptoids) would be desirable or would increase transfection efficiency.

There is no motivation provided in Liotta, therefore, to screen a "library of different- sequence peptoids" for oligonucleotide transfection, as claimed by the applicants. As noted above, Murphy et al. do not address transfection of oligonucleotides at all.

In reply, one cannot show non-obviousness by attacking the references individually where the rejection is based on a combination of references. In re Young, 159 USPQ 725 (CCPA 1968). Liotta is not employed for the purpose, as argued i.e., varying the sequence of the peptoides (i.e., library). Rather for the motivation why one having ordinary skill in the art would employ an oligonucleotide as opposed to the longer chain polynucleotide (DNA) of Murphy. Murphy teaches said library. Thus, the combined teaching of the prior art at the time the invention was made is prima facie obvious to one having ordinary skill in the art. The test for combining references is not what the individual references themselves suggest but rather what the combination of the disclosures taken as a whole would suggest to one of ordinary skill in the art. In re McLaughlin, 170 USPQ 209 CCPA 1971. The issue of patentability must be approached in terms of what would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the sum of all the relevant teachings in the art, not in view of the first one and then another of the isolated teachings in the art. In re Kuderna, 165 USPQ 575 CCPA 1970.

Art Unit: 1639

No claim is allowed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

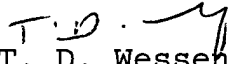
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. D. Wessendorf whose telephone number is (571) 272-0812. The examiner can normally be reached on Flexitime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571 273-8300.

Art Unit: 1639

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


T. D. Wessendorf
Primary Examiner
Art Unit 1639

Tdw

August 4, 2005